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# Cumulative Risk Assessment at Health Canada

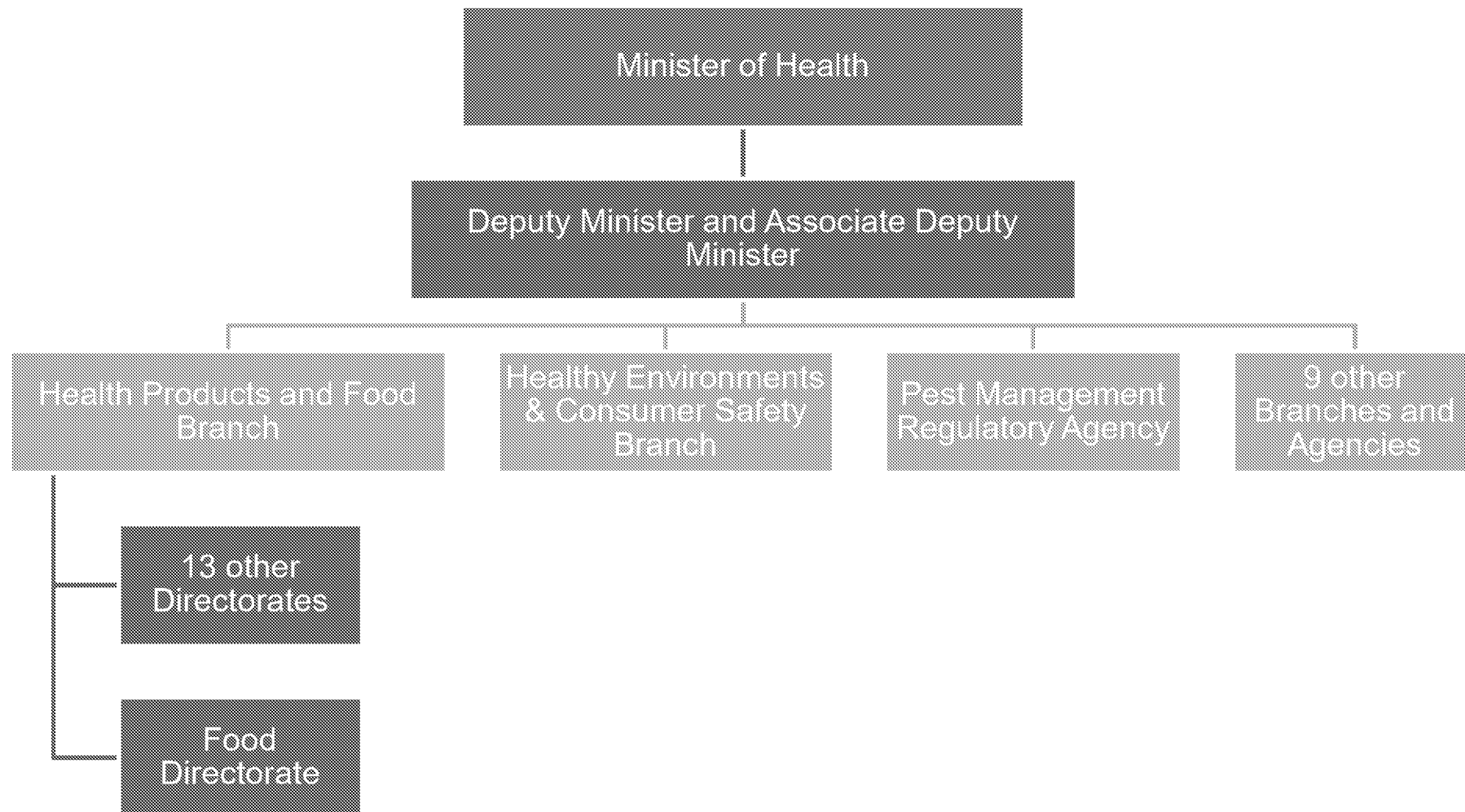
International Liaison Group on Methods for Risk  
Assessment of Chemicals in Food (ILMERAC) meeting  
October 23, 2019



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# Health Canada





# Existing Methods and Approaches

- Health Canada considers cumulative approaches within and across certain regulatory and program areas where appropriate
- Health Canada recently created a working group on methods for assessing chemical mixtures whose membership includes various program areas



# Health Canada's cumulative assessment for phthalates

- The Department assessed various **medium-chain phthalates** of concern
- The assessment took a tiered approach based on the WHO/IPCS framework for risk assessment of combined exposure to multiple chemicals
- A hazard characterization using the Hazard Index (HI) approach was determined to be the most appropriate



# Formalized Health Canada Frameworks

- Health Canada's Pest Management Regulatory Agency (PMRA) has published a framework for cumulative health risk assessment
  - Cumulative assessment is undertaken for each new pesticide evaluation or re-evaluation
  - Cumulative health assessment is mandated by the Canadian *Pest Control Products Act* for pesticides that share a common mechanism of toxicity
  - Follows internationally recognized framework (e.g., WHO/IPCS)
- Health Canada has also contributed to international efforts on cumulative risk assessment (e.g. OECD Series on Testing and Assessment No. 296)



# Examples from Health Canada's Pest Management Regulatory Agency (PMRA)

- Folpet & Captan
  - Common metabolite (thiophosgene)
  - Followed margin of exposure approach (using aggregate risk index method)
- N-Methyl carbamate (NMC) cluster (ongoing)
  - 5 registered NMCs in Canada, plus 6 that may be present on imported food commodities
  - Common mechanism of toxicity (acetylcholinesterase inhibition)



## Examples from Health Canada's Food Directorate

- Consistent with international agencies, a dose addition approach (incorporating TEFs and relative potency) is considered for groups of chemicals sharing a common mechanism of action: e.g.,
  - Polycyclic aromatic hydrocarbons
  - Dioxins, furans and dioxin-like PCBs
  - Marine biotoxins (e.g. saxitoxin equivalents, okadaic acid equivalents)
  - Aflatoxin B1, B2, G1, and G2
  - Furan, 2-methylfuran and 3-methylfuran



Thank you  
Questions?